



PATENT
0879-0244P

IN THE U.S. PATENT AND TRADEMARK OFFICE

Applicant:	MAEDA, Yutaka	Conf.:	3184
Appl. No.:	09/440,624	Group:	2615
Filed:	November 16, 1999	Examiner:	H. LONG
For:	ELECTRONIC CAMERA		

**DECLARATION OF PRIOR INVENTION IN A WTO MEMBER COUNTRY TO OVERCOME A
CITED PATENT PURSUANT TO 37 C.F.R. § 1.131**

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

I, the signer of the present declaration, hereby declare as follows:

1. That I am the sole inventor of the present application.
2. That I am presenting this declaration to establish completion of the invention of the present application in the United States, at a date prior to November 6, 1998, that is the effective date of the prior art, United States Patent 6,614,477 to Lee et al. that was cited by the Examiner in the Official Action dated June 16, 2005, in the above-identified application.
3. That in order to establish the date of invention of this application prior to November 6, 1998, the following attached documents are submitted as evidence:
 - (a) Exhibit A: Four pages of the invention description, in Japanese, that was prepared at least as early as November 5, 1998, together with a partial translation thereof.
4. That I invented the invention recited in the claims of the present application and provided the above Japanese Exhibit to my company's Patent Department at least as early as November 6, 1998, (the effective date of Lee et al.). That since the present application was filed in Japan on November 18, 1998, and since I was working with my Japanese Patent Attorney during the operative period to finalize this application for filing, there has been diligence during

the period from the preparation of the invention description until November 18, 1998, the date my application was first filed internationally. Evidence of diligence is attached hereto as follows:

- (a) Exhibit B: One page Assignment document dated July 23, 1998, demonstrating assignment of rights of invention from inventor to Fuji Photo Film Co., Ltd.;
- (b) Exhibit C: One page correspondence dated July 30, 1998, instructing attorney to prepare draft patent application; and
- (c) Exhibit D: One page correspondence dated November 18, 1998, instructing attorney to file drafted patent application.

As can be seen from these attached documents, I assigned my rights of the invention to Fuji Photo Film Co., Ltd. My attorney was instructed to prepare a draft patent application on July 30, 1998. Between July 30, 1998, and November 18, 1998, I communicated with my attorney on several occasions to discuss the invention, reviewed the draft application for completeness and accuracy, and authorized its filing.

As such, the invention in this application was made at least by November 5, 1998, which is a date earlier than the effective date of the Lee et al. reference and there was diligence from just prior to the effective date of Lee et al., namely November 6, 1998, through the filing date of the priority application, namely November 18, 1998.

I hereby declare that all statements made herein of my own knowledge are true or believed to be true; that all statements made on information and belief are believed to be true; and further that these statements are punishable by fine or imprisonment or both, under Section 1001 of Title 18 of the United States Code and that willful false statements may jeopardize the validity of the application or any patent issued thereon.

5. Signature:

Inventors:

Full name of first inventor: Yutaka MAEDA

Inventor's signature *Yutaka Maeda*

Date September 17, 2005 Citizenship: Japanese

Residence: 11-46, Senzui 3-chome, Asaka-shi, Saitama, Japan

Post Office Address: 11-46, Senzui 3-chome, Asaka-shi, Saitama, Japan

01-1186

特許部 殿

発明開示書

1998 年 7月 21日

作成者: 職場 電設 氏名 前田 豊

* 1. 発明の名称
カメラ

* 2. 発明の技術分野
デジタル・スチル・カメラなどでLCDなどの表示装置を持つ装置に関する。

* 3. 従来技術とその欠点

引用例	番号等	出願人等	備考
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従来のLCDなど表示装置付きのカメラにおいては、LCDを見ながら撮影条件、特に画角等を決定していた。この時に被写体が十分明るい時には画角の決定は可能であるが、暗すぎる場合にはLCDなどの表示装置には写らなくなってしまう、この場合は光学式のファインダーで画角を決める事になる。

しかし、被写体が暗い場合には、やはり画角を決めずらい事には変りが無い。

これは撮影画像をLCD等の表示装置に写す場合にはビデオレート(例えばNTSCの信号では1/60秒)でスルー画(ライブ画像)を出してしているからで、LCDに表示される画像の露光時間は最長1/60秒に固定される為である。

まれに撮像素子の要因で(1/30 や 1/15)固定でスルー画(ライブ画像)を出している場合があるがこれは特殊な場合であり、露光時間を長くしたい為に選択された値ではない。

又、ビデオメモリを持ったデジタルカメラにおいても暗い被写体を確認する為の1/60秒以上の長時間露光は予備的な撮影(プレビュー撮影)を1回行い、その画像を確認し、撮影した画像が期待通りであればスマートメディア等の記録媒体に記録する。様な方法を取っていた。

この場合の画角確認ではストロボは1回発光させるたびに充電が必要である為、プレビュー画像を確認後に本撮影をしようとしても直ぐには撮影できなくて、撮影タイミングを逃す可能性があった。

* 4. 発明が解決しようとする課題

被写体がある程度暗い場合でもLCD等の表示装置を見ながら画角を決定できるようにする。

又、被写体が近い距離にある場合には全く光が無くても確認出来るようにする。

更に、この時の画角確認が本来の撮影の邪魔にならないようにする。

* 5. 課題を解決するための手段

被写体が暗い場合でもLCD等の表示装置でスルー画(ライブ画像)を見ながら画角の決定が出来るようにする為、スルー画像(ライブ画像)の出力時間レートを自由に変更出来るようにする。

更にそれでも画像がくらい場合で、被写体迄の撮影距離が近くにある場合は、ストロボをスルー画(ライブ画像)の出力時間レートに合わせて連続的にプリ発光させる。

発光量は画角の確認用である為、通常の発光量の例えば $1/100$ とし、連続に発光出来る回数が多くなるようにする。

この画角確認用にストロボを連続発光させる場合、画像確認用のストロボのコンデンサを別に持たせても良く、本来のストロボのコンデンサ容量を十分大きくして対応しても良い。

* 6 a. 実施例1

スルー画(ライブ画像)をLCD等の表示装置に表示させる場合の表示レートをNTSCのビデオレートである本来 $1/60$ 秒だった場合に $1/30$ 秒、 $1/15$ 秒、約 $1/8$ 秒、約 $1/4$ 秒、約 $1/2$ 秒、約 $1/1$ 秒...に任意に変更できるようにする。

変更は使用者の任意設定にしても良いし、自動にしても良い。

デジタルカメラには画像を再生する為の画像メモリが必ずついているので、ビデオ出力するテンポラリ画像を任意の時間保持できる。

又、必要によりストロボのプリ発光をスルー画の表示レートに合わせて行う。

このときの発光量は画角の確認の為であり、本来の撮影用でない為、普通の撮影に必要な発光量より十分少なく出来る為、例えば60回の連続発光が可能である。そうすれば $1/30$ 秒の露光時間であれば2秒、 $1/15$ 秒の露光時間であれば4秒の間被写体の画角を確認出来る。

6 c. 考えられる他の用途

勿論この時撮影した画像をスマートメディア等の画像メモリに記録しても良く、ストロボ発光しながらの連続撮影を可能にしても良い。

* 7 a. 発明の効果

従来からストロボが有るカメラは暗い被写体の撮影が可能であったが、実際使ってみると本当の暗がりでは被写体の画角を前もって確認することができなく、撮影の後に再生画像を確認するまでは被写体の画角等は確認できなかった。

しかし、当該の方法では暗がりの中でも撮影前に、被写体の確認が可能であり、確認後直ちに本当の撮影が可能である。

7 b. 発明の予期せざる効果

プレビュー確認では逃がしていたシャッターチャンスに逃す事が少なくなる。

7 c. 実施例に特有の効果

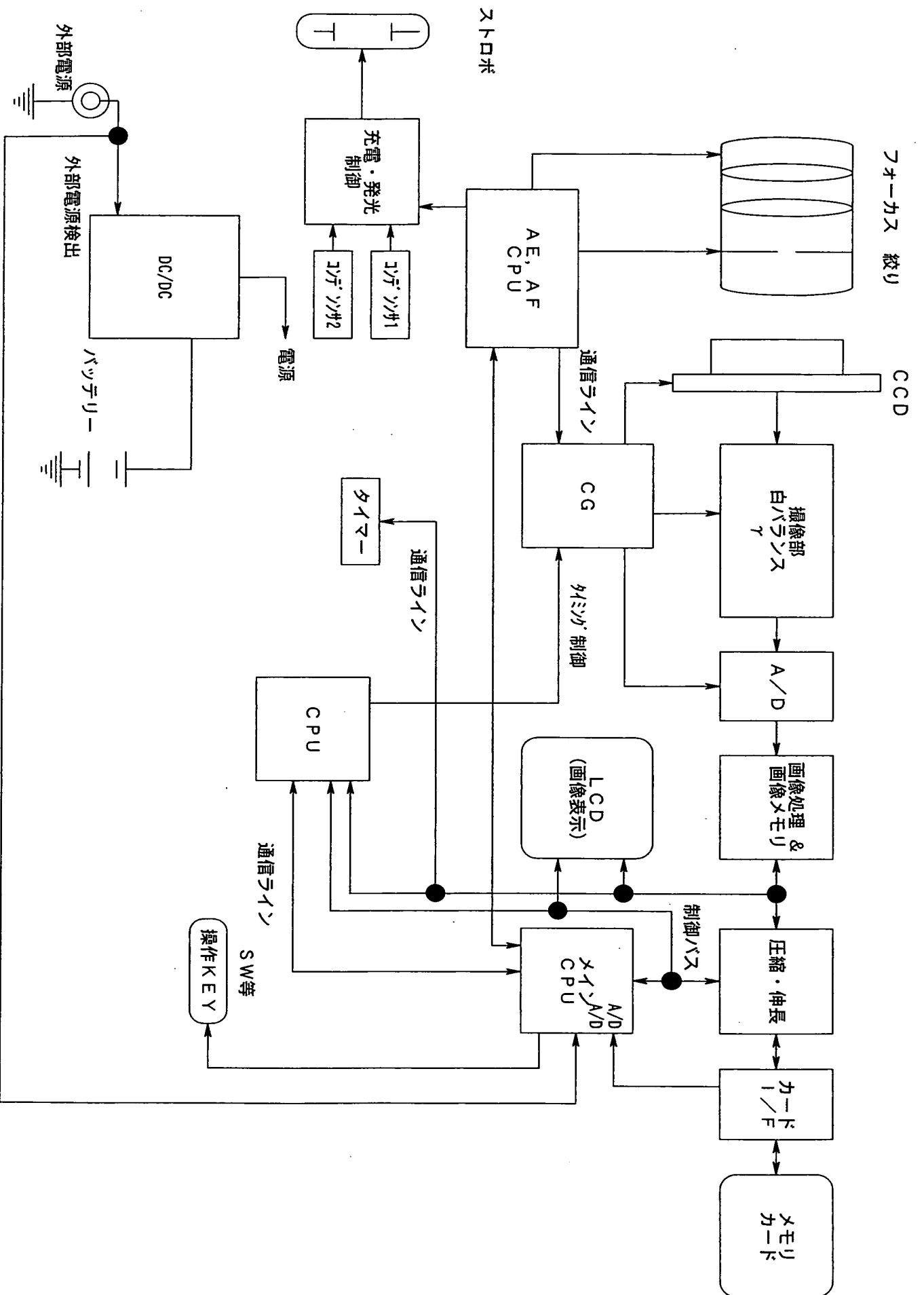
* 8 a. 特許請求の範囲

暗闇にて画角を決定する方法

- 1) LIVE映像出力時の露光時間を任意にビデオレートより長くする。
- 2) LIVE映像の出力タイミングに合わせてストロボを連続的に発光させる。

8 b. 特許請求の範囲を規定する各技術的手段に関する段階的記述

* 9. 図面の簡単な説明



To: Messrs. Patent Department

Invention Disclosure Document

July 21, 1998

Prepared by: Yutaka MAEDA of Densetsu

*1. Title of the Invention

Camera

*2. Field of the Invention

The invention is related to devices such as digital and still cameras having a display device such as an LCD.

*3. Conventional Art and Its Disadvantages

Reference	Number	Applicant	Remarks
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When using a conventional camera with a display such as an LCD, image-capturing conditions, especially the image-capturing angle of view, are determined while viewing the image displayed on the LCD. If the object is sufficiently bright, the image-capturing angle of view can be set. If, however, the object is too dark, the object is not displayed on the display device such as an LCD, and therefore, the image-capturing angle of view has to be set using the optical finder in this case.

However, when the object is dark, the image-capturing angle of view is difficult to set all the same.

This is because when the image to be photographed is displayed on the display device such as an LCD, the through image (live image) is displayed at a video rate (for example, it is 1/60 second for NTSC signals) and the exposure time for the image displayed on the LCD is fixed to the maximum value of 1/60 second.

In rare cases, the through image (live image) is displayed at a fixed rate (1/30 or 1/15 second) because of the characteristics of the image pickup device. This is, however, a special case and the value is not a value selected to increase the exposure time.

In shooting with a digital camera having a video memory, long-time exposure longer than 1/60 second or preliminary shooting (preview shooting) is performed once to check

a dark object and a user checks the image. If the image is as the user expected, the image is recorded on recording media such as smart media.

In this case, since the electronic flash needs to be charged each time it emits light in checking of image-capturing angle of view, the shoot timing may be missed because the shooting can not immediately be performed although the final shooting after checking the preview image is desired.

***4. Problems to be Solved by the Invention**

The image-capturing angle of view can be set by viewing the display such as an LCD even if the object is dark at a certain angle.

Also, when the object is near, the image-capturing angle of view can be set even if there is no light.

Further, checking the image-capturing angle of view does not interfere with the original shooting.

***5. Means for Solving the Problems**

The output time rate for the through image (live image) can be changed freely so that the image-capturing angle of view can be set by viewing the through image (live image) on the display such as an LCD even if the object is dark.

When the image is dark and the object is near, the electronic flash is controlled to emit light preliminarily in a consecutive manner according to the output time rate for the through image (live image).

The amount of light emission is, for example, 1/100 of the ordinary amount of light emission because the light is emitted for checking the image-capturing angle of view, thus maximizing the number of times of consecutive light emission.

For consecutive light emission by the electronic flash for checking the image-capturing angle of view, a separate capacitor may be provided for checking the image-capturing angle of view or the original capacity of the capacitor of the electronic flash may be increased.

*6a. Example 1

If the display rate to display the through image (live image) on a display such as an LCD is a video rate of the NTSC, which is originally 1/60 second, the display rate can freely be changed to 1/30, 1/15, about 1/8, about 1/4, about 1/2, about 1/1 second and so forth.

The change may be made by the user arbitrarily, or it may be changed automatically.

Because every digital camera inevitably has an image memory to reproduce images, temporary images for video output can be stored for arbitrary time.

The electronic flash emits light preliminarily according to the display rate for the through image as required.

The amount of light emission is for checking the image-capturing angle of view rather than for the original shoot, it can be sufficiently less than the amount of light emission required for ordinary shoots. Thus, light can be emitted consecutively, for example, 60 times. This means that the image-capturing angle of view of the object can be checked for 2 seconds when the exposure time is 1/30 second and for 4 seconds when it is 1/15 second.

6c. Other Possible Uses

The shot image may be recorded in image memory such as smart media, or consecutive shoots with light emission by the electronic flash may be enabled.

*7a. Advantages of the Invention

A dark object can be shot with a conventional camera with an electronic flash. However, in actual use, it is impossible to check the image-capturing angle of view of the object in real shadow beforehand, and it is impossible to check the image-capturing angle of view of the object without checking the reproduced image after shooting.

By the means described above, it is possible to check the subject before shooting even in shadow, and shooting can be performed immediately after checking the subject.

7b. Unexpected Advantages of the Invention

The possibility of losing photo opportunities caused by preview checking is reduced.

7c. Advantages Unique to the Example

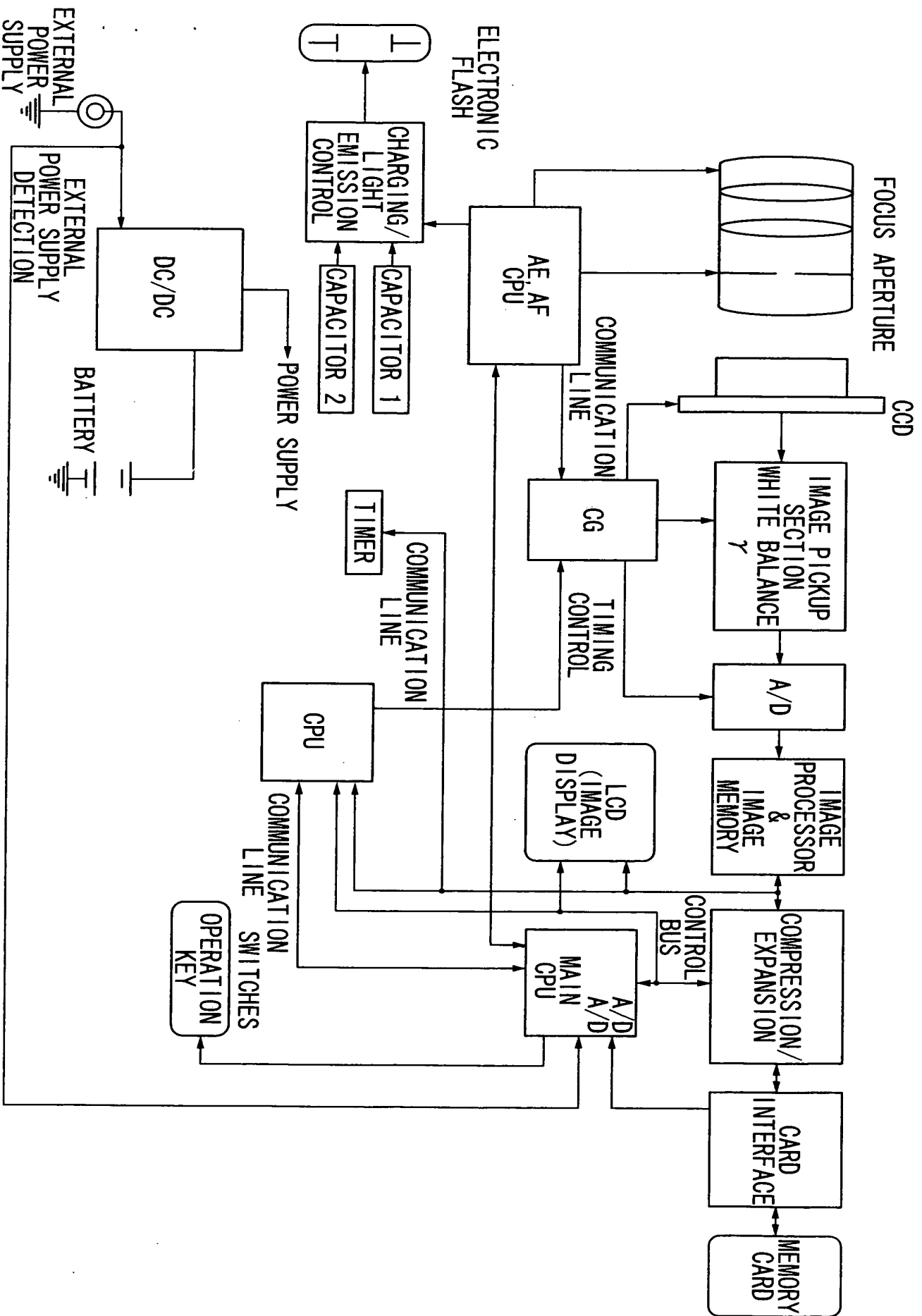
*8a. Claims for the Patent

Method to determine the image angle in darkness

- 1) When the live image is output, the exposure time is made to be longer than the video rate arbitrarily.
- 2) The electronic flash is made to emit light consecutively in response to the output timing for the live image.

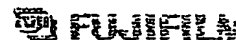
8b. Step-by-Step Descriptions Related to Individual Technological Means that Define the Claims for the Patent

*9. Brief Description of the Drawings



Preparation by the person in charge of "Intellectual Property"
 → District Input of "Intellectual Property"
 (District's safekeeping of "Intellectual Property")

Filing Procedure
 Communication
 Document



Person in charge of "Intellectual Property"	Assistant general manager in charge of "Intellectual Property"	District Input of "Intellectual Property"
Intellectual Property 10.7.30 Nakata	10.7.30 Watanabe	Input Already 98.7.30 Matsushita

Reference Number in Working Place	0 1 1 1 8 6
Code of Person in Charge of "Intellectual Property"	61

1. Title of Invention/Device
 (Provisional)
 2. Inventor/Creator of Device

Camera

I have transferred to Fuji Photo Film Co., Ltd. any
 rights to apply for registration, at home and abroad,
 concerning a patent/utility model of the above-
 mentioned invention/device.

July 23, 1998

Register A	Name (furigana name)	Employee Number	First two figures	Dept. and its Code	Contributing Ratio
A	Yutaka Maeda	8 6 2 4 0	M A	Densetsu SE1 8 6 A E 5 2	1 0 0
B					0 0 0

Yutaka Maeda

(sealed)

When Compensation for Invention in Service specified
 by the regulations of the Company has been paid, I will
 not claim any payment other than such Compensation,
 deeming that all the consideration under Article 35 of
 the Patent Law (including where the Utility Model Law
 shall apply mutatis mutandis) has been paid.

- ① Level of Urgency ☒ Regular ☐ Urgent ② Level of Importance ☒ Normal ☐ Important ③ Application Class ☒ Patent (1) ☐ Utility Model (2)
- ④ Classification of Internal Production/Outsourcing ☐ Internal Production (A9) ☒ Outsourcing Rank ☐ B
- ⑤ Patent Office to file an application in the case of outsourcing: Matsunura & Associates Nominated person in charge: Mr. Haraguchi ☐ Patent Attorney ☒ Others
- ⑥ Date of Delivery: Delivery Date of Specification Draft: By August 23, 1998 Expected Application Date: By August 30, 1998
 Application Deadline: September 7, 1998
- ⑦ Special Treatment ☒ Not Required ☐ Claim of Domestic Priority (Compensation Payment is ☐ Required ☐ Not Required) ☐ Division of Application
☐ Conversion of Application
☐ Compensation Payment is not required Earlier application number or original application number, and the filing date of application Application Number: Application Date: Application Number: Application Date:
- ⑧ Associated Agreements ☒ None ☐ Exist Counterparties and Titles of the Agreements:
- ⑨ Joint Applicants ☒ None ☐ Exist Name of Joint Applicants: Application Procedure: ☐ On Our Part ☐ On Their Part ()
- Information about Joint Applicants (Name of the person in charge, Tel number, FAX number, and so forth)

Address with postal code	TEL () -
Address of the Contact Person	Department Name: Person in Charge: TEL () -

松浦国際特許事務所 殿

FF 発注番号 : 10011186
経費コード : 01-11

国内 特・実 明細書作成依頼書

平成 10 年 7 月 30 日
富士写真フイルム株式会社
知的財産部
主任技師 金子 清隆

下記の明細書の作成を依頼いたします。



種 別 : 特許
 名 称 :
 事特番号 : 011186
 知的財産部担当者 : (電光) 仲田
 連絡担当者 : 電設 前田 豊
 貴所希望担当者 : 原口 殿
 重要度 : 普通
 緊急度 : 定常
 納 期
 明細書案納品日 : 平成 10 年 08 月 23 日まで
 出願希望日 : 平成 10 年 08 月 30 日まで
 出願最終期限日 : 平成 10 年 09 月 07 日まで
 国内優先権 :
 先の出願の表示 :

連絡欄 : 手数料はランク B です

お願い ; 上記条件 (納期、担当者) に問題がある場合は、請書をご提出
 いただく前に知的財産部担当者へ連絡し、調整して下さい。

To: Messrs. Matsuura & Associates

FF Order No: 10011186

Expense Code: 01-11

Letter of Request for the Preparation of Domestic Patent/ Utility Model Specification

July 30, 1998

Fuji Photo Film Co., Ltd.

Intellectual Property Department

Chief Engineer Kiyotaka KANEKO
(sealed)

We would like to request you to prepare the following patent specification.

Class: Patent

Title:

Jitoku Number: 011186

Person in charge of Intellectual Property Department: (Denkou) Nakata

Principal contacts: Yutaka MAEDA of Densetsu

Expected Person in Charge of Your Office: Mr. Haraguchi

Level of Importance: Normal

Level of Urgency: Regular

Date of Delivery

Delivery Date of Specification Draft : By August 23, 1998

Expected Application Date : By August 30, 1998

Application Deadline : By September 7, 1998

Domestic Priority :

Indication of Earlier Application:

Communication Space: Service Fee falls under Rank B.

Attention: If there is any problem regarding the above conditions (delivery date and your person in charge), you are kindly requested to communicate with the person in charge of our Intellectual Property Department before sending acknowledgement of order to our company to make an adjustment.

松浦国際特許事務所 殿



FJ98-100

国内 特・実 出願依頼書

平成 10 年 11 月 18 日

富士写真フイルム株式会社

知的財産部主査 富塚幹雄

(担当：浅川 TEL:3406-2537)

下記に関し特許庁への出願手続きを依頼いたします。

種 別 : 特許出願

事特番号 : 011186

知的財産部担当者 : 仲田

連絡担当者 : 電設 前田 豊

出願希望日 : 平成 10 年 11 月 25 日まで

出願最終期限日 : 平成 10 年 11 月 25 日まで

請求項の数 : 6

国内優先権 :
先の出願の表示 :

共同出願人 : ナシ

連絡欄 : I P C :H04N 5/225

発明・考案者氏名及び居所

前田 豊 マイク ユタカ (朝 霞)

To: Messrs. Matsuura & Associates

Letter of Request for the Application of Domestic Patent/Utility Model



November 18, 1998
Fuji Photo Film Co., Ltd.
Intellectual Property Department
Project General Manager
Mikio TOMIZUKA
(Person in Charge: Asakawa TEL: 3406-2537)
(sealed)

We would like to request you to file an application for patent of the following to the Patent Office.

Class: Application for Patent

Jitoku Number: 011186

Person in charge of Intellectual Property Department: Nakata
Principal contacts: Yutaka MAEDA of Densetsu

Expected Application Date: By November 25, 1998
Application Deadline: November 25, 1998

Number of claims: 6

Domestic Priority:
Indication of Earlier Application:

Joint Applicants: None

Communication Space: IPC: H04N 5/225

Name and Address of Inventor/Creator of Device

Yutaka MAEDA

(Asaka)